

Claims

1. A method for the breaking separation of at least one bearing cap (2) from a corresponding thrust block (4) in the bearing assembly (6) of engine cases provided with bearing bores (8) which are arranged in-line, in particular crankshaft cases for reciprocating piston engines,

in which method an extension mandrel (10) comprising two half-mandrels (12, 14) is introduced into at least one bearing bore (8) and said half-mandrels (12, 14) are moved apart to produce a breaking separation force between said thrust block (4) and bearing cap (2),

characterized in that said bearing cap (2) is clamped in such a way between a corresponding half-mandrel (12) and a fixing means (22) as to be secured against rotation, though such as to be freely movable to a limited degree in the direction of breaking separation.

2. A device (1) for the breaking separation of at least one bearing cap (2) from said corresponding thrust block (4) in the bearing assembly (6) of engine cases provided with bearing bores (8) which are arranged in-line, in particular crankshaft cases for reciprocating piston engines, comprising

an extension mandrel (10) that can be inserted into at least one of said bearing bores (8) and which has two half-mandrels (12, 14).

an expander (16) for moving said half-mandrels (12, 14) apart, said expander taking effect between said half-mandrels (12, 14),

characterized in that

at least two gripping means (18, 20) are provided, said gripping means being couplable to said half-mandrel (12) corresponding to said at least one bearing cap, and

a fixing means (22) is provided, said fixing means being securely connected to said at least two gripping means (18, 20),

said at least one bearing cap (2) being clampable between said corresponding half-mandrel (12) and said fixing means (22) in such a way that

a unit consisting of said corresponding half-mandrel (12) with said gripping means (18, 20) as well as said fixing means (22) and said clamped bearing cap (2) is supported in a freely movable manner to a limited degree, though secured against rotation, in the direction of breaking separation.

3. A device in accordance with claim 2, characterized in that said extension mandrel (10), in particular said half-mandrel (12) corresponding to said bearing cap (2), comprises at least one recess (24) and/or at least one projection with which said gripping means (18, 20) engage.
4. A device in accordance with claim 2 or 3, characterized in that said half-mandrel (12) corresponding to said bearing cap (2) comprises, at its periphery on mutually facing sides, tangentially extending insertion slots (26) for said gripping means (18, 20), said slots being preferably in communication with said at least one recess (24).
5. A device in accordance with any one of claims 2 to 4, characterized in that said at least one recess (24), when viewed in the axial direction of said extension mandrel (10), is positioned axially adjacent to said insertion slots (26) in each case and merges into said slots.
6. A device in accordance with any one of claims 2 to 5, characterized in that said gripping means (18, 20) are formed by pincers that preferably each comprise fixed jaws (28), said jaws having, at their ends, engagement members (30) facing towards one another.
7. A device in accordance with claim 6, characterized in that said engagement members (30) engage with said at least one recess (24) within said half-mandrel (12) corresponding to said bearing cap (2) or engage behind said at least one projection.
8. A device in accordance with any one of claims 2 to 7, characterized in that said fixing means (22) connected to said gripping means (18, 20) comprises at least one force-actuated detent (32).
9. A device in accordance with claim 8, characterized in that at least two detents (32, 34) that are spaced apart from one another are provided, said detents acting upon said bearing cap (2) preferably at that side which is opposite said corresponding half-mandrel (12).